

Notice of Allowability

Application No.

09/885,166

Examiner

Tarifur R. Chowdhury

Applicant(s)

FUJII ET AL.

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed on 07/23/03.
2. ☒ The allowed claim(s) is/are 1-37 and 47-61.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/523,842.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 07/26/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Drawings

1. The drawings were received on July 23, 2003. These drawings are acceptable.

Allowable Subject Matter

1. Claims 1-37 and 47-61 are allowed.
2. The following is an examiner's statement of reasons for allowance:

As to claims 1 and 10, the prior art record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, inclined linear wiring electrodes for connecting the display electrodes and the terminal electrodes and wherein the lengths of the terminal electrodes and the widths of the inclined linear wiring electrodes are adjusted so that each resistances of each set of the terminal electrodes and the inclined linear wiring electrodes are substantially equal.

As to claim 19, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a first set of first terminal electrode, the first display electrode and the first inclined electrode has a relationship with a second set of the second terminal electrode, the second display electrode and the second inclined electrode in accordance with the following formula:

$$e_{(n-1)} / W_{TCP} + m_{n-1} / W_{n-1} + P_{n-1} / W_{LCD} = m_n W_n + p_n / W_{LCD}$$

As to claims 25, 27, 28 and 30-35, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either

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the video signal lines or the scanning signal lines or the display electrodes and the terminal electrodes, including first portions being substantially parallel to either the video signal lines or the scanning signal lines or the display electrodes, second portions being substantially parallel to the terminal electrodes and inclined linear wiring electrodes for connecting the first and second portions, and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially parallel to an substantial portions of adjacent one of the inclined wiring electrodes.

As to claims 30-32, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either the display electrodes or the scanning signal lines or the video signal lines and the terminal electrodes, including linear wiring electrodes which are not parallel to either the display electrodes or the scanning signal lines or the video signal lines, and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially parallel to an substantial portions of adjacent one of the inclined wiring electrodes.

As to claims 33-35, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either the video signal lines or the scanning signal lines or the display electrodes and the terminal electrodes, wherein the leadout wirings connected to the terminal electrodes positioned at least an outer portion have inclined linear wiring electrodes which are not parallel to either the

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display electrodes or the scanning signal lines or the video signal lines, and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially parallel to an substantial portions of adjacent one of the inclined wiring electrodes.

As to claims 49, 50 and 51, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either the video signal lines or the scanning signal lines or the display electrodes and the terminal electrodes, including first portions being substantially parallel to either the video signal lines or the scanning signal lines or the display electrodes, second portions being substantially parallel to the terminal electrodes and inclined linear wiring electrodes for connecting the first and second portions, and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially parallel to substantial portions of an adjacent one of the inclined wiring electrodes at least in an area of the liquid crystal side of the sealant.

As to claims 54-56, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either the video signal lines or the scanning signal lines or the display electrodes and the terminal electrodes, inclined linear wiring electrodes which are not parallel to either the video signal lines or the scanning signal lines or the display electrodes, and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially

parallel to an substantial portions of adjacent one of the inclined wiring electrodes at least in area of the liquid crystal side of the sealant.

As to claims 57-59, the prior art of record does not anticipate nor render obvious to one skilled in the art a liquid crystal display comprising various elements as claimed, more specifically, a plurality of leadout wiring for connecting either the video signal lines or the scanning signal lines or the display electrodes and wherein the leadout wirings connected to the terminal electrodes positioned at least an outer portion have inclined linear wiring electrodes which are not parallel to either the video signal lines or the scanning signal lines or the display electrodes and wherein at least substantial portions of at least a majority of the inclined linear wiring electrodes are substantially parallel to an substantial portions of adjacent one of the inclined wiring electrodes at least in area of the liquid crystal side of the sealant.

Ishikawa et al. (PN 5,555,116) fail to suggest a inclined linear wiring electrodes and the width of it along with the length of the terminal electrodes need to be adjusted in order to bring the wiring resistances of the terminal and inclined linear electrodes almost equal. The Ishikawa reference only discloses that the electrode terminals of the liquid crystal panels which are adjacent to each other but are connected to any adjacent two of the five tape carriers, are set substantially equal in length, thereby almost eliminating a difference in wiring resistance. Improvement providing adjusting the length of parallel terminal electrodes and width of the inclined linear wiring electrodes, disclosed in the applicant's invention so that the wiring resistance of the terminal electrodes are almost equal to those of the inclined linear wiring electrodes.

The AAPA shown in Fig. 28 of the instant application shows that substantial portions of at least a majority of the inclined linear wiring electrodes are not substantially parallel to substantial portions of the inclined linear electrode 42-3 and 42-5 which are adjacent on either side of the inclined wiring terminal 42-4. Further, the AAPA described in the present application discloses in page 3 of the specification that such wirings are radial wirings with different angles of the inclined wiring electrodes. Further, it should also be noted that in conventional leadout wirings, their resistance are made equal by adjusting the angles of the inclined linear wirings with respect to the display electrodes or the terminal and the widths of the inclined linear wirings.

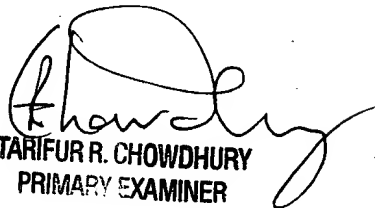
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nelms C. David can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRC
January 16, 2007



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER